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[54] COMPOSITIONS AND METHOD FOR PRODUCING FUEL RESISTANT LIQUID POLYTHIOETHER POLYMERS WITH GOOD LOW TEMPERATURE FLEXIBILITY

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[58] Field of Search 528/373, 374, 528/378; 525/212; 568/29

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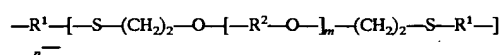
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[57] ABSTRACT

A polythioether includes a structure having the formula I



wherein

R¹ denotes a divalent C₂₋₆ n-alkyl, C₃₋₆ branched alkyl, C₆₋₈ cycloalkyl or C₆₋₁₀ alkylcycloalkyl group, —[(—CH₂—)_p—X—]_q—(—CH₂—)_r—, or —[(—CH₂—)_p—X—]_q—(—CH₂—)_r— in which at least one —CH₂— unit is substituted with a methyl group,

R² denotes methylene, a divalent C₂₋₆ n-alkyl, C₂₋₆ branched alkyl, C₆₋₈ cycloalkyl or C₆₋₁₀ alkylcycloalkyl group, —[(—CH₂—)_p—X—]_q—(—CH₂—)_r—, or —[(—CH₂—)_p—X—]_q—(—CH₂—)_r— in which at least one —CH₂— unit is substituted with a methyl group,

X denotes one selected from the group consisting of O, S and —NR⁶,R⁶ denotes H or methyl,

m is a rational number from 0 to 10,

n is an integer from 1 to 60,

p is an integer from 2 to 6,

q is an integer from 0 to 5, and

r is an integer from 2 to 10.

The polythioether is a liquid at room temperature and pressure.

23 Claims, 2 Drawing Sheets

